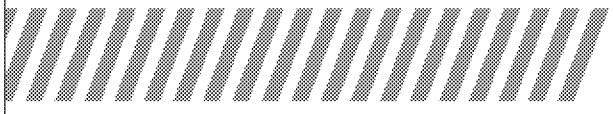
Pesticide Use and Usage Data



Al Barefoot, FMC
Pat Havens, DowDuPont
Laura Phelps, ADAMA
19-April-2018

Employing Usage data in Estimating Exposure Concentrations and Risks

- The type of usage data can include:
  - Total and base acres treated
  - Total pounds applied
  - Range of application rates
  - Methods of application
  - Crop treated
  - Number of farms treated
  - Other factors at varying spatial scales
- Usage data may be available by active ingredient, end-use product, and pesticide type

Data Relevant to Refine Exposure

Labeled uses
- Current use through reregistration
- Future labels will reflect significant changes

Incorporating Usage Data (pounds, timing and footprint)
- Ag and Non-Ag uses: defining the areas of action
  - Insecticide use volumes vary with pest outbreaks
- Factors that define or refine footprint of actual use
  - Percentage of treated area by state and crop
- National scale market surveys –USDA chemical use, AgroTrak
  - Ranges of use rates/numbers at varying spatial scales (state to region to CRD to county)
  - Trends over years
  - Differences by application methods – ground vs. aerial
- State use data – CA PUR, Washington, Oregon, etc.
  - Permitted use
  - Can be at highly detailed spatial/temporal scale
- Crop specific data - Cranberry institute
- Actual use specific – AMCA, FLMCC , REJV, company sales data

Next steps examining use data for the consultation process

Develop standard approaches/policy for including use data in consultations

Determine what data is useful at various stages/tiers
- PTA, where treated, how much is used
- Timing of applications over the cropped area
- Timing over multiple years

Identify gaps in data bases and alternative sources

Develop methods for compiling data, characterize uncertainties

Develop guidelines for use data
- Goal at each stage/tier of the assessment
- Availability within the time frame of the consultation
- Spatial scale needed to meet the need of a specific species
- End use product data
- Establish upper limits to the total amount that may be applied
  - all malathion and diazinon is imported, records are available

Program management of Federal and state lands
- Mormon cricket control

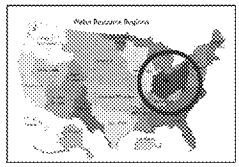
Percent Treated Area– Ohio basin (HUC02-05)

Upper 90th percentile percent treated area estimated for each state and crop group using the AgroTrak data from 2010-2015

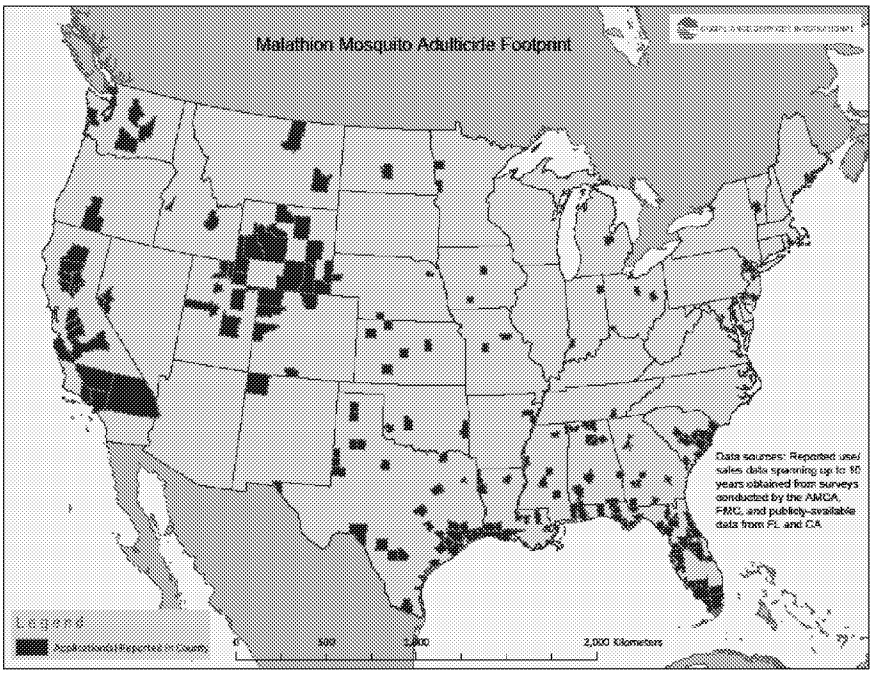
STATENAME	Corn	Cotton*	Orchards and grapes*	Other crops*	Other grains*	Other row crops	Pasture/ hay/forage	Soybeans	Vegetables and ground fruit
Illinois	1.3%	3.3%	21.5%	21.5%	1.6%	13.2%	10.1%	3.6%	1.1%
Indiana	1.5%	3.3%	21.5%	21.5%	1.6%	13.2%	19.0%	7.1%	1.1%
Kentucky	0.6%	3.3%	21.5%	21.5%	1.6%	2.8%	7.0%	7.2%	1.1%
Maryland	3.7%	3.3%	21.5%	21.5%	1.6%	13.2%	8.5%	7.2%	1.1%
New York	2.9%	3.3%	21.5%	21.5%	1.6%	13.2%	8.5%	7.2%	1.1%
North Carolina	1.2%	3.3%	21.5%	21.5%	1.6%	17.2%	8.5%	7.2%	1.1%
Ohio	0.8%	3.3%	21.5%	21.5%	1.6%	9.5%	3.4%	1.8%	1.1%
Pennsylvania	3.1%	3.3%	21.5%	21.5%	1.6%	64.2%	4.5%	6.6%	47.7%
Tennessee	1.9%	3.3%	21.5%	21.5%	1.6%	4.3%	8.5%	0.3%	1.1%
Virginia	2.3%	3.3%	21.5%	21.5%	1.6%	12.8%	7.3%	34.5%	1.1%
West Virginia	1.2%	3.3%	21.5%	21.5%	1.6%	13.2%	8.5%	7.2%	1.1%

*National average data used where state data was not available

Winchell, M et al. (2016) Refined Chlorpyrifos Aquatic Exposure Modeling for Endangered Species in Flowing Water Habitats: Ohio River Basin HUC2 Case Study: submitted to EPA docket EPA-HQ-OPP-2008-0850



Malathion Mosquitocide Use by County



Next steps

Properly define "action" based on to be revised labels.

Identify actual use data readily available to FWS

Evaluate its usefulness

Develop ways to provide or collect data

- Registrant contributions
- Data from EPA
- Aggregate and deliver data through FESTF's Gopher

Proposed Agenda for Next Three Meetings

One, Agricultural Uses:

- Developing a percent treated estimate by crop, state and new label uses from AgroTrak and other data.
- Attendees: USFWS staff, all Registrants, EPA staff, USDA agricultural economist and conservation service staff, FESTF staff.

Two, Non-Agricultural Uses:

- Mappable data on actual use in mosquito control and other uses.
- Attendees: USFWS staff, Registrants, EPA staff, USDA agricultural economist and conservation service staff, FESTF staff.

Three: Field applications and methods.

- Implications of use in the real world.
- Attendees: USFWS staff, Registrant, EPA staff, USDA agricultural economist, conservation and cooperative service staff, FESTF staff.